

MULTILEVEL DATA COMPRESSION USING A SINGLE COMPRESSION  
ENGINE

ABSTRACT OF THE DISCLOSURE

A single compression engine determines a plurality of discrete cosine transform (DCT) coefficients based on a discrete cosine transform of a plurality of blocks of data. The single compression engine provides first and second DCT-encoded signals. The first DCT-encoded signal uses at most  $t$  coefficient bits to represent each of the DCT coefficients. The second DCT-encoded signal uses at most  $u$  coefficient bits, where  $u$  is less than  $t$ , to represent each of the DCT coefficients.